

EXPEDITED PROCEDURE – EXAMINING GROUP 2841

S/N 10/612,281

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Brian Taggart et al. Examiner: Jeremy Norris
Serial No.: 10/612,281 Group Art Unit: 2841
Filed: June 30, 2003 Docket No.: 884.853US1
Title: BOND FINGER ON VIA SUBSTRATE, PROCESS OF MAKING SAME,
PACKAGE MADE THEREBY, AND METHOD OF ASSEMBLING SAME
Customer Number: 21186

PRE-APPEAL BRIEF REQUEST FOR REVIEW

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The applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. Claims 1-30 have been advanced during the prosecution history of the application. Claims 1-30 are therefore pending.

This request is being filed with a Notice of Appeal.

The review is requested for the reason(s) stated below:

Claims 1, 2, 4, 8-12, 14-18 and 20-27 stand finally rejected under 35 USC §103.

Claims 3, 5-7, and 9 additionally stand finally rejected under 35 USC §103.

Claim 13 additionally stands finally rejected under 35 USC §103.

Claims 28-30 additionally stand finally rejected under 35 USC §103.

Claims 17-19, 21, 23, and 25 have been rejected and/or have been given a final rejection.

1) Claims 1, 2, 4, 8-12, 14-18 and 20-27 were rejected under 35 USC § 103(a) as being unpatentable over Horiuchi (U.S. 6,084,295).

Regarding independent claims 1 and 8, the Office Action admitted that “Horiuchi does not specifically disclose an upper protective layer where the first and second wire bond pads and the upper protective layer are disposed upon each other [claim 1].” (Office Action at page 3).

The Office Action next uses reference to Fig. 2 to assert that claim 1 is obvious. Applicant respectfully disagrees. "FIG. 2 is an enlarged side section view" (Horiuchi col. 3, lines 3-4), which shows a structure nothing like that set forth in claim 1. In Figure 2 of Horiuchi, there is no hint or suggestion of a

first wire-bond pad disposed *upon* the upper protective layer ... a first via in the wire-bonding mounting substrate ... wherein the first via is disposed *symmetrically and directly below* the first wire-bond pad

(Claim 1, emphases added). Horiuchi's bonding pad 22 is *under* his protective coating 26. This is not what is claimed. Consequently, when one looks to Figure 2 of Horiuchi to fill in the admitted deficits elsewhere in Horiuchi, one is led further away from what is claimed. Applicant respectfully requests the Pre-Appeal Board to withdraw the rejections. Claims 2-7 depend from claim 1, and claims 9-16 depend from claim 8. Therefore, these claims are also not obvious over Horiuchi. Applicant respectfully requests the Pre-Appeal Board to withdraw the rejections.

Regarding claims 17, 18, and 20-23, independent claim 17 has the limitation as a process claim of "wherein forming proceeds from the lower protective layer toward the upper protective layer". The Office Action asserts Horiuchi teaches this. (Office Action at page 7). Applicant respectfully disagrees. Horiuchi is silent about forming a via, starting at the lower protective layer, *i.e.*, which forming "proceeds from the lower protective layer" (Claim 17). The via forms beginning from this layer and formation continues in the direction of the upper protective layer, *i.e.*, "toward the upper protective layer" (Id). This process limitation has support in the specification, e.g., "In other words, forming the via is done by laser drilling that forming proceeds from the second surface 114 toward the first surface 112." All the limitations of the rejected claims are not taught by the cited reference. Applicant respectfully requests the Pre-Appeal Board to withdraw the rejections.

2) Claims 3, 5-7 and 9 were also rejected under 35 USC § 103(a) as being unpatentable over Horiuchi in view of Hashemi (U.S. 6,252,178 B1).

The deficiencies of Horiuchi not teaching all the limitations of independent claims 1 and 8 as set forth above are incorporated herein by reference. Hashemi teaches no occurrence of a via in the mounting substrate. Hashemi's core layer 200 has no vias. The Office Action first refers to claim 9 as being rejected (Office Action at page 7, beginning of second paragraph), but next refers to claim 19. (Office Action at page 7, beginning of third paragraph). Applicant believes claim 19 is referred to as it is referenced again at the beginning of page 8. Claim 19 is a process claim, which depends from claim 17. Horiuchi is silent about forming a via, starting at the lower protective layer, *i.e.*, "proceeds from the lower protective layer" (Claim 17) and the via forms from this layer and continues in the direction of the upper protective layer, *i.e.*, "toward the upper protective layer" (Id). Horiuchi neither teaches nor suggests this limitation, and Hashemi has no vias in the core 200, which makes the combination of Horiuchi and Hashemi untenable to teach the limitations of claim 19. Consequently, all the limitations of the rejected claims are not taught by the cited references. Applicant respectfully requests the Pre-Appeal Board to withdraw the rejections.

3) Claim 13 was also rejected under 35 USC § 103(a) as being unpatentable over Horiuchi and further in view of Walton (U.S. 5,936,844).

The deficiencies of Horiuchi not teaching all the limitations of independent claims 1 and 8 as set forth above are incorporated herein by reference. Walton does nothing to fill the voids and negative teachings left by Horiuchi. Further, Walton teaches no occurrence of a via in the mounting substrate. Walton's PCB has no through vias. Consequently, all the claim limitations are not taught in the cited references. Applicant respectfully requests the Pre-Appeal Board to withdraw the rejections.

4) Claims 28-30 were also rejected under 35 USC § 103(a) as being unpatentable over Walton in view of Horiuchi.

Independent claim 28 also has the limitation of "a first wire-bond pad disposed *upon* the upper protective layer". The Office Action admits that Walton does not include the structural limitations of claim 28. Applicant incorporates here by reference, the previous admissions by the Office of Horiuchi. In particular, "Horiuchi does not specifically disclose an upper protective

layer where the first and second wire bond pads and the upper protective layer are disposed upon each other [claim 1].” (Office Action at page 3). All the claims limitations are therefore not taught in the cited references. , Horiuchi, withdrawal of the rejections is respectfully requested. Further, because the highlighted teaching by Horiuchi, teaches away from what is claimed, the Office has impermissibly used Applicant’s disclosure as a guide to reach a conclusion of obviousness. Applicant respectfully requests the Pre-Appeal Board to withdraw the rejections.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant’s attorney John Greaves at 801-278-9171 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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